

Table 2.6-2. Badger Hills Plan of Development—Summary Comparison of Impacts

Affected Resource & Impact Indicators	Existing Resource Conditions	Alternative A—No BLM Approval (No Action)	Alternative B—Fidelity Proposed POD	Alternative C—Proposed POD with added Mitigation Measures
<i>Air Quality:</i>				
Pollutant concentrations	Existing criteria pollutant concentrations are in compliance with MAAQS and NAAQS, except for one violation of the 24 hour PM ₁₀ MAAQS in 2003 near Lame Deer in Rosebud County, Montana.	Impacts to criteria pollutant concentrations would be slightly less than Alternative B concentrations because 2 400 hp compressors and the station would not be built, and overall construction and development activities would be reduced.	Concentrations of NO ₂ , CO, SO ₂ and PM ₁₀ in compliance with MAAQS and NAAQS. Concentrations of NO ₂ in compliance with PSD Class I at the Northern Cheyenne Reservation and in adjacent PSD Class II areas.	Same as Alternative B, except PM ₁₀ concentrations would be slightly less.
Visibility	Visibility monitoring data for Northern Cheyenne Reservation are not yet available. Recent visibility monitoring data for Yellowstone National Park show no worsening trend.	Impacts to visibility would be slightly less than Alternative B because 2 400 hp compressors and the station would not be built, and overall construction and development activities would be reduced.	Visibility in compliance with thresholds for mandatory federal Class I areas. Potential exceedances of voluntary visibility threshold at other sensitive locations from cumulative sources.	Same as Alternative B, except visibility impairment would be slightly less.
Atmospheric Deposition	Existing atmospheric deposition monitoring at Little Big Horn Battlefield National Monument shows precipitation pH values are normal.	Impacts to atmospheric deposition would be slightly less than Alternative B because 2 400 hp compressors and the station would not be built, and overall construction and development activities would be reduced.	Atmospheric deposition in compliance with voluntary lake chemistry threshold in sensitive lakes.	Same as Alternative B.
<i>Cultural Resources:</i>				

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National Register listed or eligible sites	2 Sites on Private Surface/Minerals – Site has been Determined Eligible, No sites listed on National Register 1 Site in POD and 1 Site in adjacent section to be developed	Same as existing resource conditions.	Same as existing resource conditions and Alternative A.	Same as existing resource conditions. <ul style="list-style-type: none"> Two sites would require verification by BLM to determine if they would be impacted.
<i>Social and Economic Conditions:</i>				
Amount of natural gas production in area	9.7 MMCF FY 2002	50% increase from FY 2001	30% increase from Alternative A	Same as Alternative B
Traffic levels on Northern Cheyenne Reservation	See the Northern Cheyenne Narrative Report, 2002	No increase	No increase	No increase
Springs and wells as domestic or agricultural water sources	Produce acceptable quality and quantity of water for well or spring owner	Water Well Mitigation Agreement required by MBOGC Order 99-99	Water Well Mitigation Agreement required by MBOGC Order 99-99, and BLM	Same as Alternative B
Noise levels for area residents	From existing sources	Compressors would be located at least 1 mile from occupied dwelling	Same as Alternative A	Same as Alternative A
Environmental Justice Concerns	Impacting activities must meet NCT air and water quality standards, and do not impose hardships on NCT services	NCT air and water quality standards would be met through permitted activities NCT services not required to support proposed CBNG development	Same as Alternative A	Same as Alternative A
Notify landowner before permit issued	As per MBOGC or BLM or operator protocol	As per MBOGC requirements or operator protocol	As per MBOGC or BLM requirements and operator protocol	Same as Alternative B

Affected Resource & Impact Indicators	Existing Resource Conditions	Alternative A—No BLM Approval (No Action)	Alternative B—Fidelity Proposed POD	Alternative C—Proposed POD with added Mitigation Measures
Northern Cheyenne	NCT does not provide employees, services or equipment to CX Field	Employees, field services, equipment would come from Sheridan, WY	Same as Alternative A	Same as Alternative A
<i>Soils and Vegetation:</i>				
Acres of Disturbance	0	199 acres	297 acres	297 acres
Area of LAD	0	152 acres	152 acres	152 acres
Soil/Vegetative productivity in LAD areas	1,400 lbs./acre Based on Ecological site descriptions, (not actual data)	2,400 lbs./acre during irrigation 1,050 lbs./acre post-irrigation	2,400 lbs./acre during irrigation 1,050 lbs./acre post-irrigation	2,400 lbs./acre during irrigation 1,050 lbs./acre post-irrigation
Soil/Vegetative productivity on roads	800 lbs./acre for two-track roads 1400 lbs./acre undisturbed lands	100 lbs./acre for two-track roads 0 lbs./acre on improved roads	100 lbs./acre for two-track roads 0 lbs./acre on improved roads	100 lbs./acre for two-track roads 0 lbs./acre on improved roads
<i>Water Quality Cumulative Impacts:</i>				
Max LMM SAR at Birney Day School	1.02	1.32	1.32	1.32
Max LMM EC at Birney Day School (mS/cm)	717	735	735	735
Duration of 1600 gpm discharge to Tongue	0 month	3 months	17 months	17 months
Groundwater Under Impoundment sites	unaltered	unaltered	unaltered	unaltered
<i>Water Quantity Direct Impacts:</i>				
Radius of Badger Hills Project 20' Drawdown Contour	N/A	3.1 miles	3.6 miles	3.6 miles

Affected Resource & Impact Indicators	Existing Resource Conditions	Alternative A—No BLM Approval (No Action)	Alternative B—Fidelity Proposed POD	Alternative C—Proposed POD with added Mitigation Measures
Area Contained within the 20' Drawdown Contour (Square Miles)	0	87	105	105
# of Domestic/Stock Wells within the POD 20' Drawdown Contour	36 1 spring	41	45	45
# of Springs within the POD 20' Drawdown Contour	1	1	1	1
<i>Water Quantity Cumulative Impacts:</i>				
Max. groundwater production rate	984 gpm	2,257	3,476	3,476
Max discharge rate to Tongue River	984	1,600	1,600	1,600
Duration of 1600 gpm discharge to Tongue	0 month	3 months	17 months	17 months
Max LMM Flow at Birney Day School (cfs)	179	184	184	184
Radius of Badger Hills Project 20' Drawdown Contour	none	3.1 miles	3.6 miles	3.6 miles
# of Domestic/Stock Wells in the Cumulative 20' Drawdown Area	72	89	90	90
# of Springs in the Cumulative 20' Drawdown Area	12	27	27	27
<i>Wildlife:</i>				

Affected Resource & Impact Indicators	Existing Resource Conditions	Alternative A—No BLM Approval (No Action)	Alternative B—Fidelity Proposed POD	Alternative C—Proposed POD with added Mitigation Measures
Habitat fragmentation in project area	Project area is fragmented by state highway, county gravel road and railroad. Large blocks of undisturbed habitat within project area	Increased habitat fragmentation with the addition of landscape-level CBNG development affecting about 1/2 presently undisturbed habitat. Partitioning of landscape with new structures include 22 well sites, 14 miles of pipeline corridors, 3.4 miles of improved roads, 9 miles of two track roads, 3 batteries and 5.5 miles of aerial powerlines	Fragmentation affects about 2/3 presently undisturbed habitat with 40 well sites, 22 miles pipeline corridors, 4.4 miles improved roads, 17 miles of two track roads, 4 batteries and 8 miles of aerial pipelines	Same as Alternative B.
Vehicle traffic-wildlife collisions	Direct mortalities are common related to state highway and railroad traffic	Increased mortalities related to increased roads and traffic.	Same as Alternative A.	Same as Alternative A.
Electrocution hazard level	Existing Aerial powerlines pose electrocution hazard	Increased electrocution hazard with addition of 5.5 miles of new powerlines with construction in high raptor use corridor (i.e., Tongue River valley and near active nest sites)	Increased electrocution hazard with addition of 8 miles of new powerlines with construction in high raptor use corridor (i.e. Tongue River Valley and near active nest sites).	Same as Alternative B.
Proximity to T&E species habitat	Light disturbance to bald eagle nesting and winter roost habitat.	Increased disturbance to bald eagle nesting and winter roost habitat with addition of CBNG infrastructure and human presence to what was previously low impact and/or acclimated to by bald eagles	Same as Alternative A Increase in CBNG infrastructure	Same as Alternative B.